

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave.St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-014852**Date Inspected:** 19-May-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

CWI Inspectors: Mr. Li Yan Hua, Mr. Geng Wei, Mr. Li Yang

On this date CALTRANS OSM Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. This QA Inspector observed the following:

OBG Bay 13

The QA Inspector observed ZPMC welder Ms. Huang Xinlan, stencil 044780 is using submerged arc welding procedure specification WPS-B-T-2221-2 to make OBG segment 13AE bottom plate groove butt weld BP3032-001-003. This QA Inspector observed ZPMC Quality Control Certified Welding Inspector Mr. Geng Wei monitoring this welding and this QA Inspector measured a welding current of approximately 600 amps and 30.0 volts. Items observed on this date appeared to generally comply with applicable contract documents.

The QA Inspector observed ZPMC welder Ms. Wang Min, stencil 044771 is using submerged arc welding procedure specification WPS-B-T-2221-2 to make OBG segment 13AE bottom plate groove butt weld BP3032-001-001. This QA Inspector observed ZPMC Quality Control Certified Welding Inspector Mr. Geng Wei monitoring this welding and this QA Inspector measured a welding current of approximately 580 amps and 29.5 volts. Items observed on this date appeared to generally comply with applicable contract documents.

WELDING INSPECTION REPORT

(Continued Page 2 of 4)

This QA Inspector observed ZPMC welder Mr. Li Zhu Jun, stencil 052696 is using the flux cored welding process to weld a temporary lifting attachment plate to deck panel D3032. Mr. Li Zhu Jun does not appear to have a ZPMC issued welder identification card and this welder information was supplied by ZPMC Quality Control Certified Welding Inspector Mr. Geng Wei and one of the ZPMC supervisors. This QA Inspector observed the base material appears to have been preheated with a torch prior to welding. Items observed on this date appeared to generally comply with applicable contract documents.

OBG Bay 14

This QA Inspector observed ZPMC welder Mr. Jiang Yafei, stencil 045276 has been using flux cored welding procedure WPS-B-T-2233-B-U2-F to make OBG weld SEG3004G-001 through -005 at OBG segment 12CW. This QA Inspector observed ZPMC QC has recorded a welding current of 210 amps and 24.6 volts. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder stencil 062438 has been using flux cored welding procedure WPS-B-T-2132 to make OBG weld SEG3005H-004 at OBG segment 12BW. This QA Inspector observed ZPMC QC has recorded a welding current of 320 amps and 30.7 volts. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. He Hanbi, stencil 202122 is using flux cored welding procedure WPS-B-T-2233-TC-U4B-F to make segment weld SEG3005F-011. This QA Inspector observed ZPMC QC Inspector Mr. Li Jie has recorded a welding current of 209 amps and 25.0 volts and this QA Inspector measured a welding current of approximately 220 amps. This QA Inspector observed Mr. He Hanbi appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Xi Xianyou, stencil 047866 is using flux cored welding procedure WPS-B-T-2233-TC-U4B-F to make segment weld SEG3005F-010. This QA Inspector observed ZPMC QC Inspector Mr. Li Jie has recorded a welding current of 210 amps and 24.7 volts and this QA Inspector measured a welding current of approximately 225 amps. This QA Inspector observed Mr. He Hanbi appears to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

OBG Segment Assembly

This QA Inspector observed ZPMC welder Ms. Wang Chaili, stencil 045203 is using flux cored welding process to make temporary alignment plate welds on the top deck adjacent to weld OBW8A-002. This QA Inspector observed the base material was preheated with a torch prior to welding and Ms. Wang Chaili appears to be certified to make this weld. This QA Inspector measured a welding current of approximately 300 amps and 32.3 volts and that Ms. Wang Chaili appears to be certified to make this weld. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

This QA Inspector observed ZPMC welder Ms. Cheng Haixia, stencil 045209 is using flux cored welding process to make temporary alignment plate welds on the top deck adjacent to weld OBW8A-004. This QA Inspector observed the base material was preheated with a torch prior to welding. This QA Inspector measured a welding current of approximately 250 amps and 28.0 volts and that Ms. Cheng Haixia appears to be certified to make this

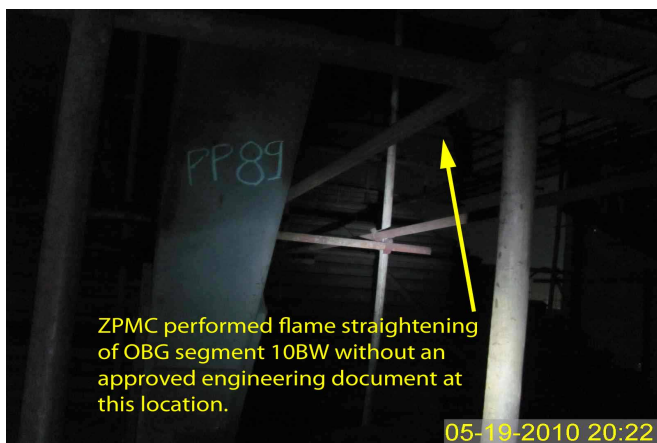
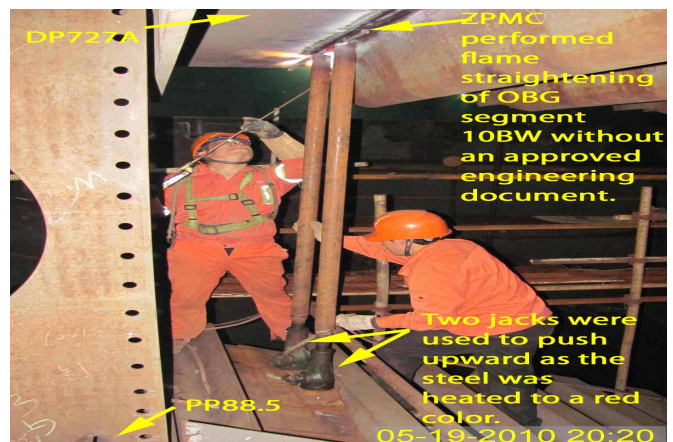
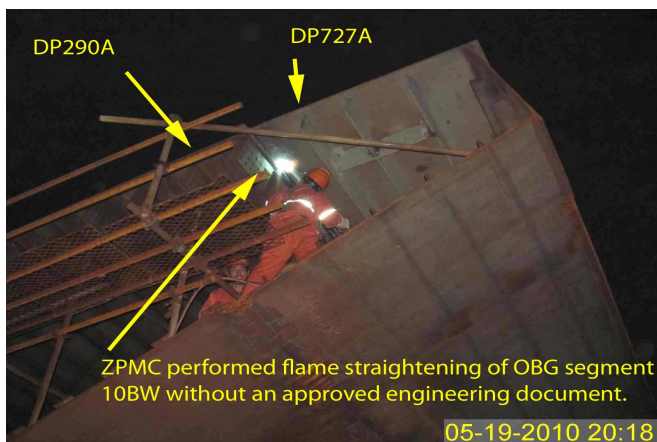
WELDING INSPECTION REPORT

(Continued Page 3 of 4)

weld. Items observed by this QA Inspector appear to be progressing in compliance with project specifications.

OBG Segment 10BW in the yard behind bay 18

This Caltrans Quality Assurance Inspector (QA) observed ZPMC performing heat straightening on and adjacent to the weld that joins deck plates DP290A and DP727A (corner assembly CA74A) in OBG segment 10BW between panel point PP89 and 88.5 without an approved heat straightening document. ZPMC had two jacks pushing in an upward direction with an unknown amount of force as the deck plates were heated to a bright red condition. This QA Inspector did not observe any digital temperature measurement gauge, temperature indicating crayon or other similar means of monitoring the heat input being utilized by the workers and the actual maximum attained temperature does not appear to have been measured or recorded. This QA Inspector phoned ABF representative Mr. Li Hao who arrived at OBG segment 10BW a few minutes later. This QA Inspector asked ZPMC QC Certified Welding Inspector (CWI) Mr. Li Yan Hua and ABF representative Mr. Li Hao if they were aware that this heat straightening had taken place and both of them said they did not know that this heat straightening was taking place or of a heat straightening document had been approved for this activity. This QA Inspector informed ZPMC QC CWI Mr. Li Yan Hua and ABF representative Mr. Li Hao that an incident report is being issued to document heat straightening OBG segment 10DW without any monitoring of the heat input or approved engineering document. See the photographs below for additional information.



Summary of Conversations:

WELDING INSPECTION REPORT

(Continued Page 4 of 4)

See Above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang phone: 150-0042-2372 , who represents the Office of Structural Materials for your project.

| | | |
|----------------------|----------------|-----------------------------|
| Inspected By: | Dawson,Paul | Quality Assurance Inspector |
| Reviewed By: | Carreon,Albert | QA Reviewer |
